<center>**REMARKS**</center>

Claims 1, 7, 8, 18, 21, 24, 31, 32, 34, 41, 42, 45, 46, 48, 50 and 51 have been amended. Claims 6, 23 and 33 have been canceled. Therefore claims 1-5, 7-22, 24-32, and 34-55 are pending in the application. Reconsideration is respectfully requested in light of the following remarks.

Section 103(a) Rejection:

The Office Action rejected claims 1, 2, 4, 5, 10, 11, 14, 15, 17-19, 21, 22, 27, 28, 30-32, 37, 38, 40-43, 45, 46, 48, 50, 52 and 54 under 35 U.S.C. § 103(a) as being unpatentable over Luo et al. (U.S. Patent 6,216,158) (hereinafter "Luo") in view of Coffman et al. (U.S. Patent 6,377,913) (hereinafter "Coffman").

Regarding claim 1, Lou in view of Coffman fails to teach or suggest a display service advertisement that comprises a **data representation language message schema** comprising descriptions of **data representation language messages** for sending data to the display service. Lou in view of Coffman also fails to teach a first service **generating one or more data representation language messages** in accordance with descriptions of the one or more data representation language messages from the data representation language schema, wherein the one or more data representation language messages include data for the client. In contrast, Luo teaches the use of systems such as Jini by Sun Microsystems, Java's Remote Method Invocation (RMI), or other middleware systems if they provide "discovery and software download for network-based services" (emphasis added, Luo, col. 2, lines 64-66, col. 2 lines 44-66, col. 6, lines 40-48). This type of code-centric middleware is also discussed in Applicants' Related Art section and specifically does not involve generating data representation language messages according to a data representation language schema.

The use of data representation language messages and data representation language message schemas is very different from communications technologies

employed in other distribution computing systems, such as Jini which employs the Java Remote Method Invocation (RMI). Data representation language messages move data, but not code, from source to destination, unlike other middleware that requires software interfaces. (See also, Applicants' specification, page 7, line 25 – page 8, line 21, page 9, lines 4 – 30, and page 23, lines 18 – 30). Under Luo's system, clients download the actual code to communicate with a service and use code-centric RMI to communicate with services. Without the code interfaces, Luo's clients and services would not be able to communicate with one another. Applicants' use of data representation language messages defined in data representation language schemas is a completely different approach in which clients and services are designed to use and understand data representation language messages. Although data representation languages have been used in other contexts (typically to describe data or content), the prior art does not suggest using data representation language messages for control of services by clients. In fact, such a use of data representation language messages is counter-intuitive from the intended use of such languages in the prior art for describing data in documents (as opposed to a messaging interface to services).

Applicants further submit that Coffman fails to teach anything regarding service advertisements, data representation language message schemas, or data representation language messages. Thus, Luo in view of Coffman fails to teach a display service advertisement that comprises a data representation language message schema comprising descriptions of data representation language messages for sending data to the display service. In contrast, a combination of Luo and Coffman, as suggested by the Examiner, would still result in a system that uses the code-centric middleware (i.e. Jini) as required by Luo.

Applicants also respectfully disagree with the Examiner's assertion that in Luo a client inherently specifies a display service. As the Examiner is surely away, inherency requires a "determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." (M.P.E.P. § 2112, IV, pp 2). Applicants submit that it is not necessarily the case in Luo that a client must specify a display service. Luo

describes that when discovering and accessing other services a service employs procedures similar to those a client uses when accessing services. In other words, Luo's services access and search the service directory to find and use other services. For instance, the Powerpoint service in Luo's example could easily be configured to use a particular display device and search through the service directory to discover and download the code necessary to control that device. Luo provide no information either way regarding how one display service (or any other secondary service) is selected over another. Applicants submit that in the absence of clear evidence showing that a client in Luo systems must necessarily specify a display service such teaching is certainly not inherent.

Additionally, Coffman fails to a client specifying a display *service*. Instead, Coffman teaches the use of predetermined user preferences to indicate a desired output device and that the user may open a user preference file in device preference 305 and specify the desired output client device (Coffman, column 5, lines 2-11). In response to Applicants previous arguments, the Examiner states, "Coffman is used to teach a client specifying the display." Applicants note, however, that Coffman teaches that the choice of output device is "based upon a *predetermined device preference* stored in the conversational system" (Emphasis added) (Coffman, column 1, lines 50-52 and column 6, lines 39-46). Applicants further submit that since, as the Examiner has admitted, Coffman fails to teach the use of service advertisements, Coffman does not provide any benefit or motivation to use service advertisements when specifying a display device. A client specifying a display device based on a predetermined device preference is very different from a client specifying a display service advertisement.

In light of the above remarks, Applicants assert that the rejection of claim 1 is not supported by the cited art and withdrawal of the rejection is respectfully requested. Similar remarks as discussed above in regard to claim 1 apply to claims 18, 31, 41, 45 and 48.

Regarding claim 2, Applicants respectfully disagree with the Examiner's interpretation of Luo and submit that Luo in view of Coffman fails to teach messaging channels configured to pass messages *in a data representation language.* In contrast, Luo teaches that a "directory service will have objects whose attributes describe the features of available services and optionally include either code to invoke those services or a reference to such code" (Luo, column 9, lines 16-20) and that once the client "has located the necessary services, it downloads the code required to control those services" (Luo, column 3, lines 60- 63). Luo states this again as a registry of network services that includes descriptions and that each description "includes at least a reference to program code that can be downloaded" to a control device (Luo, column 1, lines 36-42). Additionally, Luo teaches the use of RMI (Luo, column 6, lines 26-48) to send requests from the control device to the network service. Hence, under Luo a client uses service-specific code interfaces to communicate with services.

In response to Applicants arguments, the Examiner asserts that "[m]essaging through a data representation language can be considered a type of middleware" and that the messaging channels of Luo are therefore configured to pass messages in a data representation language. Applicants disagree. This statement by the Examiner has no support in the teachings of the prior art. Middleware consists of more than just an exchange of messages, no matter what formatting is used for the messages. Middleware systems are specifically designed to provide distributed control across network interfaces and not just to transfer messages back and forth. Additionally, Applicants disagree with the Examiner's statement that "[w]hile the example by Luo shows the transfer of objects and code to meet the goals of the system, Luo does not restrict against other methods of transferring the necessary information." Actually, Luo very clearly states that while his system uses Jini, "[o]ther middleware could be substituted for Jini *if it provides discovery and software download* for network-based services." (emphasis added). Applicants submit that Luo is very clearly restricting against other methods of transferring the necessary information in his system. Since Luo specifically mentions the requirement of downloading code, Applicants also submit that Luo is clearly teaching away from using messaging channels configured to pass messages in a data representation language.

In light of the above remarks, Applicants assert that the rejection of claim 2 is not supported by the cited art and withdrawal of the rejection is respectfully requested. Similar remarks as discussed above in regard to claim 2 apply to claim 19.

Regarding claim 4, Applicants submit that Luo in view of Coffman does not teach a "first service sending one or more data messages to the display service on the second messaging channel, wherein the one or more data messages include data for the client; and the display service displaying the data from the one or more data messages on a display of the client." Instead, Luo teaches a network service sending control messages to other services (Luo, column 7, lines 42-47). Luo also teaches that "[n]one of these services are resident" on the client device (Luo, column 3, lines 60-61). Luo also states that "resources are accessed and controlled, but not resident, on the control device" (Luo, column 3, lines 14-15).

In response to Applicants argument, the Examiner contends that when the Powerpoint service of Luo's example sends message instructing a display device to display slides, "the messages include data for displaying the requested slides for the client, so the data is for the client." The client may have requested the functionality that caused the messages to be sent to the display device, and the same human that is using the client device may be able to view the end results (i.e. the projected slides), but the data is clearly not displayed on a display of the client. As shown above, Luo specifically teaches that the display is separate from the client. Therefore, Applicants submit that Luo in view of Coffman does not teach a "first service sending one or more data messages to the display service on the second messaging channel, wherein the one or more data messages include data for the client; and the display service displaying the data from the one or more data messages on a display of the client."

In light of the above remarks, Applicants assert that the rejection of claim 4 is not supported by the cited art and withdrawal of the rejection is respectfully requested. Similar remarks as discussed above in regard to claim 4 apply to claims 21 and 50.

Regarding claim 11, the Examiner states that Luo in view of Coffman teaches "the display service displaying the results data from the one or more results data messages on a display of the client." Applicants respectfully disagree with the Examiner's interpretation of Luo in view of Coffman. Luo teaches a network service sending control messages to other services (Luo, column 7, lines 42-47). Luo also teaches that "[n]one of these services are resident" on the client device (Luo, column 3, lines 60-61). Additionally, Luo teaches, "resources are accessed and controlled, but not resident, on the control device" (Luo, column 3, lines 14-15). Therefore, Applicants submit that Luo in view of Coffman does not teach "the display service displaying the results data from the one or more results data messages on a display of the client." **Applicants have presented this argument previously and note that the Examiner has not presented any rebuttal to this specific argument.**

In light of the above remarks, Applicants assert that the rejection of claim 11 is not supported by the cited art and withdrawal of the rejection is respectfully requested. Similar remarks as discussed above in regard to claim 11 apply to claim 52.

Regarding claim 14, the Examiner states, "Luo in view of Coffman teaches ... wherein the first message includes information for accessing the display service advertisement on the storage device through a space service." Applicants respectfully disagree with the Examiner. Applicants can find no teaching in either Luo or Coffman regarding a first message including information for accessing the display service advertisement. Luo fails to teach the client providing information to the service regarding a display service advertisement as the Examiner states regarding claim 1. In contrast Luo teaches that service descriptors are accessed by searching through a directory of services (Luo, column 1, lines 37-41; column 6, lines 8-22; and column 9, lines 11 - 22). As shown above regarding claim 1, there is nothing inherent in Luo regarding a client specifying a display device or service. Applicants submit that, under Luo, a service searches through the services directory to find appropriate display services without receiving information from a client. For instance, the Powerpoint service in

Luo's example could easily be configured to always search the directory for a specific display service. Coffman teaches the setting of user preferences to indicate a desired output device (Coffman, column 5, lines 2-11). Applicants further assert that Coffman teaches away from this by disclosing that the output device is "determined based upon a predetermined device preference stored in the conversational system" (Coffman, column 1, lines 50-52 and column 6, lines 39-46). Applicants therefore submit that Luo in view of Coffman fails to teach that the first message includes information for accessing the display service advertisement on the storage device through a space service.

In light of the above remarks, Applicants assert that the rejection of claim 14 is not supported by the cited art and withdrawal of the rejection is respectfully requested.

The Office Action rejected claims 3, 6-9, 16, 20, 23-26, 33-36, 49, 51 and 55 as being unpatentable over Luo in view of Coffman, and further in view of "Composable ad hoc location-based services for heterogeneous mobile Clients" by Hodes, et al. (hereinafter "Hodes"). The Office Action rejected claims 12, 13, 29, 39, 44, 47 and 53 as being unpatentable over Luo in view of Coffman, and further in view of Mukherjee et al. (U.S. Patent 6,466,978) (hereinafter "Mukherjee"). The rejections of these claims are unsupported by the cited art for at least the reasons given above in regard to their respective independent claims.

Applicants also assert that numerous other ones of the dependent claims recite further distinctions over the cited art. However, since the rejections have been shown to be unsupported for the independent claims, a further discussion in regard to the remaining dependent claims is not necessary at this time.
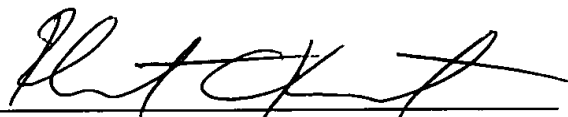
CONCLUSION

Applicants submit the application is in condition for allowance, and notice to that effect is respectfully requested.

If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5181-64300/RCK.

Also enclosed herewith are the following items:

☒ Return Receipt Postcard

☐ Petition for Extension of Time

☐ Notice of Change of Address

☐ Fee Authorization Form authorizing a deposit account debit in the amount of $ for fees (   ).

☐ Other:

Respectfully submitted,

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